

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A method for dynamic distributed link table consistency management, the method comprising:
 - (a) maintaining, on a plurality of different link interface modules for routing signaling messages in a distributed signaling message routing system, a plurality of signaling link tables having the same signaling link entries, wherein each signaling link table is used by one of the link interface modules to route signaling messages from inbound to outbound signaling links;
 - (b) sending a signaling link table data error detecting code request from a first link interface module having a first signaling link table to a second link interface module having a second link interface table;
 - (c) at the second link interface module, in response to the request, computing ~~an~~ a data error detecting code for the second signaling link table and sending the data error detecting code to the first link interface module;
 - (d) at the first link interface module, computing ~~an~~ a data error detecting code for the first signaling link interface table and comparing the data error detecting code computed for the first signaling link table to the data error detecting code received from the second link interface module;

- (e) in response to detecting a match between the data error detecting codes, repeating steps (b)-(d) for the next link interface module in the system; and
 - (f) in response to failing to detect a match between the data error detecting codes, taking corrective action.
- 2. (Original) The method of claim 1 wherein maintaining a plurality of signaling link tables includes maintaining a plurality of SS7 signaling link tables.
- 3. (Original) The method of claim 1 wherein maintaining a plurality of signaling link tables includes maintaining a plurality of IP socket tables.
- 4. (Currently Amended) The method of claim 1 wherein taking corrective action includes:
at the first link interface module:
 - (a) sending an individual entry data error detecting code request from the first link interface module to the second link interface module;
 - (b) receiving the individual entry data error detecting code from the second link interface module and computing an individual entry data error detecting code for an entry in the first signaling link table;
 - (c) comparing the individual entry data error detecting code received from the second link interface module to the data error detecting code computed for the individual entry by the first link interface module;

- (d) in response to detecting a match of the individual entry data error detecting codes, repeating the individual entry checks for each entry in the first signaling link table; and
 - (e) in response to failing to detect a match between individual entry data error detecting codes, performing a predetermined corrective operation.
- 5. (Original) The method of claim 4 wherein performing a predetermined corrective operation includes reporting the individual entry mismatch to an operator.
- 6. (Original) The method of claim 4 wherein performing a predetermined corrective operation includes correcting at least one of the individual entries.
- 7. (Original) The method of claim 6 wherein correcting at least one of the individual entries includes correcting the entry in the first signaling link table to match a corresponding entry in a signaling link table on a link interface module that terminates the signaling link corresponding to the entry.
- 8. (Original) The method of claim 7 wherein correcting at least one of the individual entries includes correcting link status information in the entry in the first link interface table.
- 9. (Currently Amended) ~~The~~ A method for dynamic, distributed link table consistency management, the method comprising:
 - (a) broadcasting a signaling link table data error detecting code request from a first link interface module having a first signaling link table to a plurality of second link interface modules having second signaling link tables, wherein the first and second signaling link tables are respectively used by

the first and second link interface modules to route signaling messages from inbound to outbound signaling links;

- (b) receiving full signaling link table data error detecting codes from the second link interface modules;
- (c) comparing the received data error detecting codes to a full signaling link table data error detecting code computed for the first signaling link table;
- (d) requesting individual entry data error detecting codes from the second link interface modules having full signaling link table data error detecting codes that do not match the full signaling link table data error detecting code computed for the first signaling link table;
- (e) receiving the individual entry data error detecting codes from the second link interface modules having full signaling link table checksums data error detecting codes that do not match the full table data error detecting code computed for the first signaling link table and comparing the individual entry data error detecting codes to individual entry error detecting codes computed for the first signaling link table; and
- (f) taking corrective action for the mismatching entries.

10. (Currently Amended) The method of claim 9 wherein broadcasting signaling link table data error detecting code requests to a plurality of second ~~signaling~~ link interface modules includes broadcasting link table data error detecting code requests to a plurality of SS7 signaling link interface modules.

11. (Currently Amended) The method of claim 9 wherein broadcasting signaling link table data error detecting code requests to a plurality of second link interface modules includes broadcasting the link table data error detecting code request to a plurality of SS7 over IP signaling link interface modules.
12. (Original) The method of claim 9 wherein taking corrective action includes informing an operator of mismatching signaling link table entries.
13. (Original) The method of claim 9 wherein taking corrective action includes automatically correcting the mismatching entries.
14. (Original) The method of claim 13 wherein automatically correcting the mismatching entries includes identifying the owner of a signaling link table entry and requesting current link table entry status information from the owner.
15. (Currently Amended) A system for dynamic, distributed link table consistency management, the system comprising:
 - (a) a plurality of link interface modules for sending ~~and receiving~~ signaling messages to and receiving messages from external signaling links;
 - (b) a plurality of link tables, one link table being located on each link interface module, each link table including entries having signaling message routing information and corresponding signaling link status information, wherein each signaling link table is used by one of the link interface modules to route signaling messages from inbound to outbound signaling links; and
 - (c) a plurality of dynamic link table auditors, one link table auditor being located on each link interface module, each dynamic link table auditor

being adapted to compare the link table on its associated link interface module with the link tables on other link interface modules for detecting data inconsistencies and to take corrective action in response to detecting data inconsistencies between the link tables.

16. (Original) The system of claim 15 wherein the link interface modules include SS7 link interface modules.
17. (Original) The system of claim 15 wherein the link interface modules include SS7 over IP signaling link interface modules.
18. (Original) The system of claim 15 wherein the link tables on each of the link interface modules include corresponding signaling link entries.
19. (Currently Amended) The system of claim 15 wherein the dynamic link table auditor on each link interface module is adapted to broadcast link table data error detecting code requests to the other dynamic link table auditors in order to check for data inconsistencies in signaling link status information between the link tables.
20. (Currently Amended) The system of claim 15 wherein the dynamic link table auditor on each link interface module is adapted to sequentially request link table data error detecting codes from the other dynamic link table auditors in order to check for inconsistencies between the signaling link tables.
21. (Currently Amended) The system of claim 15 wherein the dynamic link table auditor on each link interface module is adapted to check for data inconsistencies between individual entries in the signaling link tables.

22. (Currently Amended) The system of claim 21 wherein the dynamic link table auditor is adapted to report data inconsistencies in individual link table entries to an operator.
23. (Currently Amended) The system of claim 21 wherein the dynamic link table auditor is adapted to automatically correct individual signaling link table entries for which data inconsistencies are detected.
24. (Currently Amended) The system of claim 23 wherein, for each individual entry for which ~~an~~ a data inconsistency is detected, the dynamic link table auditor is adapted to identify the owner of the mismatching entry and correct its link table entry to correspond to that of the owner.